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## Distributed form management

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### ↑ ABSTRACT

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1 CAMPBELL-GRANT, I. Framework for future extensions to ODA. ISO/IEC JTC1/SC 18/WG3 N1165rev, November 1988.

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**4 NFQL: the natural forms query language**

David W. Embley

June 1989 **ACM Transactions on Database Systems (TODS)**, Volume 14 Issue 2

Full text available: pdf(3.56 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

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**5 A microprogrammed keyword transformation unit for a database computer**

Krishnamurthi Kannan, David K. Hsiao, Douglas S. Kerr

October 1977 **Proceedings of the 10th annual workshop on Microprogramming**

Full text available: pdf(705.09 KB)

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Shou-chuan Yang

September 1969 **Proceedings of the 1969 conference on Computational linguistics**

Full text available: pdf(1.54 MB)

Additional Information: [full citation](#), [abstract](#), [references](#)

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**7 Clarification of Fortran standards--second report**

C. Karpelman

October 1971 **Communications of the ACM**, Volume 14 Issue 10

Full text available: pdf(1.84 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

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**Keywords:** American National Standard, Basic Fortran, Fortran, language standard clarification, language standard interpretation, language standard maintenance, language standard specification, programming language, standardization, standardization committee

**8 Session 6: aspect-oriented programming: Supporting aggregation in fine grained software configuration management**

Mark C. Chu-Carroll, James Wright, David Shields

November 2002 **ACM SIGSOFT Software Engineering Notes**, Volume 27 Issue 6

Full text available:  pdf(1.05 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Fine-grained software configuration management offers substantial benefits for large-scale collaborative software development, enabling a variety of interesting and useful features including complexity management, support for aspect-oriented software development, and support for communication and coordination within software engineering teams, described in [4]. However, fine granularity by itself is not sufficient to achieve these benefits. Most of the benefits of fine granularity result from th ...

**Keywords:** aggregation, dynamic program organization, fine grained storage

**9** Fast detection of communication patterns in distributed executions 

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**

Full text available:  pdf(4.21 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

**10** Customized information extraction as a basis for resource discovery 

Darren R. Hardy, Michael F. Schwartz

May 1996 **ACM Transactions on Computer Systems (TOCS)**, Volume 14 Issue 2

Full text available:  pdf(1.91 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Indexing file contents is a powerful means of helping users locate documents, software, and other types of data among large repositories. In environments that contain many different types of data, content indexing requires type-specific processing to extract information effectively. We present a model for type-specific, user-customizable information extraction, and a system implementation called Essence. This software structure allows users to associate specialized extracti ...

**Keywords:** Internet, distributed indexing, resource discovery

**11** WSQ/DSQ: a practical approach for combined querying of databases and the Web 

Roy Goldman, Jennifer Widom

May 2000 **ACM SIGMOD Record , Proceedings of the 2000 ACM SIGMOD international conference on Management of data**, Volume 29 Issue 2

Full text available:  pdf(220.65 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present WSQ/DSQ (pronounced "wisk-disk"), a new approach for combining the query facilities of traditional databases with existing search engines on the Web. WSQ, for *Web-Supported (Database) Queries*, leverages results from Web searches to enhance SQL queries over a relational database. DSQ, for *Database-Supported (Web) Queries*, uses information stored in the database to enhance and explain Web searches. This paper focuses primarily on WSQ, describing a simple, lo ...

12 IS '97: model curriculum and guidelines for undergraduate degree programs in information systems  
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December 1997 **ACM SIGMIS Database , Guidelines for undergraduate degree programs on Model curriculum and guidelines for undergraduate degree programs in information systems**, Volume 28 Issue 1  
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13 Industrial sessions: beyond relational tables: Coordinating backup/recovery and data consistency between database and file systems  
Suparna Bhattacharya, C. Mohan, Karen W. Brannon, Inderpal Narang, Hui-I Hsiao, Mahadevan Subramanian  
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**  
Full text available:  pdf(1.44 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



Managing a combined store consisting of database data and file data in a robust and consistent manner is a challenge for database systems and content management systems. In such a hybrid system, images, videos, engineering drawings, etc. are stored as files on a file server while meta-data referencing/indexing such files is created and stored in a relational database to take advantage of efficient search. In this paper we describe solutions for two potentially problematic aspects of such a data ...

**Keywords:** DB2, content management, database backup, database recovery, datalinks

14 An Elementary Discussion of Compiler/Interpreter Writing

R. L. Glass  
January 1969 **ACM Computing Surveys (CSUR)**, Volume 1 Issue 1

Full text available:  pdf(1.85 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



15 Generation of Compiler Symbol Processing Mechanisms from Specifications

Stephen P. Reiss  
April 1983 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 5 Issue 2

Full text available:  pdf(1.99 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)



16 A framework for choosing a database query language

Matthias Jarke, Yannis Vassiliou  
September 1985 **ACM Computing Surveys (CSUR)**, Volume 17 Issue 3

Full text available:  pdf(2.71 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)



This paper presents a systematic approach to matching categories of query language interfaces with the requirements of certain user types. The method is based on a trend model of query language development on the dimensions of functional capabilities and usability. From the trend model the following are derived: a classification scheme for query languages, a criterion hierarchy for query language evaluation, a comprehensive classification scheme of query language users and their requirement ...

**17 From text to hypertext by indexing**

Ari Salminen, Jean Tague-Sutcliffe, Charles McClellan

January 1995 **ACM Transactions on Information Systems (TOIS)**, Volume 13 Issue 1Full text available:  pdf(1.98 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

A model is presented for converting a collection of documents to hypertext by means of indexing. The documents are assumed to be semistructured, i.e., their text is a hierarchy of parts, and some of the parts consist of natural language. The model is intended as a framework for specifying hypertextual reading capabilities for specific application areas and for developing new automated tools for the conversion of semistructured text to hypertext. In the model, two well-known paradigms— ...

**Keywords:** constrained grammars, grammars, hypertext, properties, structured text, test types, text entities, transient hypergraphs

**18 Types and persistence in database programming languages**

Malcolm P. Atkinson, O. Peter Buneman

June 1987 **ACM Computing Surveys (CSUR)**, Volume 19 Issue 2Full text available:  pdf(7.91 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Traditionally, the interface between a programming language and a database has either been through a set of relatively low-level subroutine calls, or it has required some form of embedding of one language in another. Recently, the necessity of integrating database and programming language techniques has received some long-overdue recognition. In response, a number of attempts have been made to construct programming languages with completely integrated database management systems. These lang ...

**19 Information gathering in the World-Wide Web: the W3QL query language and the W3QS system**

David Konopnicki, Oded Shmueli

December 1998 **ACM Transactions on Database Systems (TODS)**, Volume 23 Issue 4Full text available:  pdf(1.36 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The World Wide Web (WWW) is a fast growing global information resource. It contains an enormous amount of information and provides access to a variety of services. Since there is no central control and very few standards of information organization or service offering, searching for information and services is a widely recognized problem. To some degree this problem is solved by "search services," also known as "indexers," such as Lycos, AltaVista, Yahoo, and others. ...

**Keywords:** CGI, FORMS, HTML, HTTP, PERL, World-Wide Web, query language, query system

**20 Automatic detection and repair of errors in data structures**

Brian Demsky, Martin Rinard

October 2003 **ACM SIGPLAN Notices, Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 38 Issue 11Full text available:  pdf(340.56 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a system that accepts a specification of key data structure consistency

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**Keywords:** data structure invariants, data structure repair

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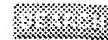
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C. Karpelman

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October 1981 **Communications of the ACM**, Volume 24 Issue 10Full text available: [pdf\(2.41 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**3** [Human-computer interface development: concepts and systems for its management](#)

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5 A structured approach for the definition of the semantics of active databases



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June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**

Full text available: [pdf\(1.44 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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**9 PSAIL: A portable SAIL to C compiler—description and tutorial**



P. F. Lemkin

October 1988 **ACM SIGPLAN Notices**, Volume 23 Issue 10

Full text available:  pdf(1.32 MB)

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**10 A Structural View of PL/I**



David Beech

January 1970 **ACM Computing Surveys (CSUR)**, Volume 2 Issue 1

Full text available:  pdf(2.86 MB)

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**11 Spoken dialogue technology: enabling the conversational user interface**



March 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 1

Full text available:  pdf(987.09 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Spoken dialogue systems allow users to interact with computer-based applications such as databases and expert systems by using natural spoken language. The origins of spoken dialogue systems can be traced back to Artificial Intelligence research in the 1950s concerned with developing conversational interfaces. However, it is only within the last decade or so, with major advances in speech technology, that large-scale working systems have been developed and, in some cases, introduced into commerc ...

**Keywords:** Dialogue management, human computer interaction, language generation, language understanding, speech recognition, speech synthesis

**12 NFQL: the natural forms query language**



David W. Embley

June 1989 **ACM Transactions on Database Systems (TODS)**, Volume 14 Issue 2

Full text available:  pdf(3.56 MB)

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Roy Goldman, Jennifer Widom

May 2000 **ACM SIGMOD Record , Proceedings of the 2000 ACM SIGMOD international conference on Management of data**, Volume 29 Issue 2

Full text available:  pdf(223.85 KB)

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**16 A type-checking program linkage system for pascal** 

R. B. Kieburtz, W. Barabash, C. R. Hill

May 1978 **Proceedings of the 3rd international conference on Software engineering**

Full text available:  pdf(618.46 KB)

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We describe a new software facility useful in the development, debugging, and integration of quasi-independent program modules. It has been implemented in conjunction with a Pascal compiler for IBM 360 computers, but the linkage facility is machine-independent up to the point of formattingsystem object modules. With some minor syntactic extensions to permit

the designation of external references, Pascal becomes a powerful language for modular programming. The new linkage subsyste ...

17 [Applications I: The fusion of audio-visual features and external knowledge for event detection in team sports video](#) 

Huaxin Xu, Tat-Seng Chua

October 2004 **Proceedings of the 6th ACM SIGMM international workshop on Multimedia information retrieval**

Full text available:  pdf(304.60 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Most existing systems detect events in broadcast team sports video using only internal audio-visual (AV) features with limited success. We found that there are many widely available external knowledge sources - such as match reports and real-time game logs in newspapers and on the Web - that can help in detecting events. This paper proposes a scalable framework that utilizes both internal AV features and external knowledge sources to detect events and identify their boundaries in full-length ...

**Keywords:** event detection, event modeling, semantic, sports video

18 [A search algorithm and data structure for an efficient information system](#) 

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September 1969 **Proceedings of the 1969 conference on Computational linguistics**

Full text available:  pdf(1.54 MB) Additional Information: [full citation](#), [abstract](#), [references](#)

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19 [An approach to support automatic generation of user interfaces](#) 

Prasun Dewan, Marvin Solomon

October 1990 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,

Volume 12 Issue 4

Full text available:  pdf(3.55 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In traditional interactive programming environments, each application individually manages its interaction with the human user. The result is duplication of effort in implementing user interface code and nonuniform—hence confusing—input conventions. This paper presents an approach to support automatic generation of user interfaces in environments based on algebraic languages. The approach supports the editing model of interaction, which allows a user to view all appli ...

20 [Session 6: aspect-oriented programming: Supporting aggregation in fine grained software configuration management](#) 

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November 2002 **ACM SIGSOFT Software Engineering Notes**, Volume 27 Issue 6

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Fine-grained software configuration management offers substantial benefits for large-scale collaborative software development, enabling a variety of interesting and useful features including complexity management, support for aspect-oriented software development, and support for communication and coordination within software engineering teams, described in [4]. However, fine granularity by itself is not sufficient to achieve these benefits. Most of the

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**Keywords:** aggregation, dynamic program organization, fine grained storage

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#### 41 [Distributed form management](#)

Heikki Hämmänen, Eero Eloranta, Jari Alasuvanto

January 1990 **ACM Transactions on Information Systems (TOIS)**, Volume 8 Issue 1Full text available: [pdf\(2.24 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An open architecture for distributed form management is described. The model employs object-orientation in describing organizational units as well as individual users as entities with uniform external interfaces. Each entity is represented by an autonomous user agent which operates on local and migrating forms. The form concept encapsulates data, layout, and rules into a unified object which is the basic unit of presentation, processing, storage, and commun ...

#### 42 [Data-centric storage in sensornets with GHT, a geographic hash table](#)

Sylvia Ratnasamy, Brad Karp, Scott Shenker, Deborah Estrin, Ramesh Govindan, Li Yin, Fang Yu

August 2003 **Mobile Networks and Applications**, Volume 8 Issue 4Full text available: [pdf\(255.10 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Making effective use of the vast amounts of data gathered by large-scale sensor networks (sensornets) will require scalable, self-organizing, and energy-efficient data dissemination algorithms. For sensornets, where the content of the data is more important than the identity of the node that gathers them, researchers have found it useful to move away from the Internet's point-to-point communication abstraction and instead adopt abstractions that are more data-centric. This approach entails na ...

**Keywords:** *algorithms, distributed systems, performance, sensor networks*

#### 43 [CommonObjects: an overview](#)

Alan Snyder

June 1986 **ACM SIGPLAN Notices , Proceedings of the 1986 SIGPLAN workshop on Object-oriented programming**, Volume 21 Issue 10Full text available: [pdf\(1.35 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**44** [ITS: a tool for rapidly developing interactive applications](#)  
Charles Wiecha, William Bennett, Stephen Boies, John Gould, Sharon Greene  
July 1990 **ACM Transactions on Information Systems (TOIS)**, Volume 8 Issue 3  
Full text available:  [pdf\(2.61 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The ITS architecture separates applications into four layers. The action layer implements back-end application functions. The dialog layer defines the content of the user interface, independent of its style. Content specifies the objects included in each frame of the interface, the flow of control among frames, and what actions are associated with each object. The style rule layer defines the presentation and behavior of a family of interaction techniques. Finally, the style program layer i ...

**45** [Practical extraction techniques for Java](#)  
Frank Tip, Peter F. Sweeney, Chris Laffra, Aldo Eisma, David Streeter  
November 2002 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 24 Issue 6  
Full text available:  [pdf\(1.01 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Reducing application size is important for software that is distributed via the internet, in order to keep download times manageable, and in the domain of embedded systems, where applications are often stored in (Read-Only or Flash) memory. This paper explores extraction techniques such as the removal of unreachable methods and redundant fields, inlining of method calls, and transformation of the class hierarchy for reducing application size. We implemented a number of extraction techniques in < ...

**Keywords:** Application extraction, call graph construction, class hierarchy transformation, packaging, whole-program analysis

**46** [A precise definition of basic relational notions and of the relational algebra](#)  
Alain Pirotte  
September 1982 **ACM SIGMOD Record**, Volume 13 Issue 1  
Full text available:  [pdf\(1.37 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

This paper presents a precise definition of basic relational notions as well as a precise and general definition of the relational algebra. The paper also illustrates a method for developing semi-formal definitions of data models. A nearly formal definition of relations with unordered attributes is given, and algebraic operations are described as operating on and producing relations thus defined. The definition of algebraic operations contains, as a special case, the "classical" definition of the ...

**47** [Early experience with Mesa](#)  
Charles M. Geschke, James H. Morris, Edwin H. Satterthwaite  
August 1977 **Communications of the ACM**, Volume 20 Issue 8  
Full text available:  [pdf\(1.46 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

The experiences of Mesa's first users—primarily its implementers—are discussed, and some implications for Mesa and similar programming languages are suggested. The specific topics addressed are: module structure and its use in defining abstractions, data-structuring facilities in Mesa, an equivalence algorithm for types and type coercions, the benefits of the type system and why it is breached occasionally, and the difficulty of making the treatment of variant records safe.

**Keywords:** data structures, modules, programming languages, systems programming, types

48 [Towards monolingual programming environments](#)  
Jan Heering, Paul Klint  
April 1985 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,  
Volume 7 Issue 2  
Full text available:  [pdf \(2.66 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#).

## 49 Information gathering in the World-Wide Web: the W3QL query language and the W3QS system

David Konopnicki, Oded Shmueli

December 1998 **ACM Transactions on Database Systems (TODS)**, Volume 23 Issue 4

Full text available:  [pdf \(1.36 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The World Wide Web (WWW) is a fast growing global information resource. It contains an enormous amount of information and provides access to a variety of services. Since there is no central control and very few standards of information organization or service offering, searching for information and services is a widely recognized problem. To some degree this problem is solved by "search services," also known as "indexers," such as Lycos, AltaVista, Yahoo, and others. ...

**Keywords:** CGI, FORMS, HTML, HTTP, PERL, World-Wide Web, query language, query system

## 50 Design and implementation of a C-based language for distributed real-time systems

A Rizk, F Halsall

June 1987 ACM SIGPLAN Notices, Volume 22 Issue 6

Full text available:  [pdf \(1.81 MB\)](#) Additional Information: full citation, abstract, citations, index terms

This paper describes the design and implementation of a concurrent programming language suitable for use with real-time distributed systems. The language, MC, is an extension of the language C with some of the concurrency features of ADA. The implementation provides portability and simplicity by assuming a basic C compiler for its compilation and a minimal semaphore-based run-time support kernel.

51 Integrated information retrieval in a knowledge worker support system

G. McAlpine, P. Ingwersen

May 1989 **ACM SIGIR Forum , Proceedings of the 12th annual international ACM SIGIR conference on Research and development in information retrieval,**  
Volume 23 Issue 1-2

Full text available:  [pdf \(1.44 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes the design of the information retrieval facilities of an integrated information system called EUROMATH. EUROMATH is an example of a Knowledge Worker Support System: it has been designed specifically to support mathematicians in their research work. EUROMATH is required to provide uniform retrieval facilities for searching in



Volume 11 Issue 3

Full text available:  pdf (373.10 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

According to its proponents, open source style software development has the capacity to compete successfully, and perhaps in many cases displace, traditional commercial development methods. In order to begin investigating such claims, we examine data from two major open source projects, the Apache web server and the Mozilla browser. By using email archives of source code change history and problem reports we quantify aspects of developer participation, core team size, code ownership, productivit ...

**Keywords:** Apache, Mozilla, Open source software, code ownership, defect density, repair interval

57 Environ 77

Walt Brainerd

October 1978 Communications of the ACM, Volume 21 Issue 10

Full text available:  pdf (1.38 MB)

**Additional Information:** full citation, abstract, references, citations, index terms

There is a new standard Fortran. The official title is "American National Standard Programming Language Fortran, X3.9-1978," but it is more commonly referred to as "Fortran 77," since its development was completed in 1977. It replaces the Fortran standard designated X3.9-1966. This paper describes many of the features of Fortran 77 and also provides some information about how and why the standard was developed.

## 58 Technical reports

## SIGACT News Staff

January 1980 ACM SIGACT News, Volume 12 Issue 1

Full text available:  pdf(5.28 MB)

Additional Information: full citation

59 Enterprise data management in research organizations: data the way you want it

M. Brian Blake

October 2003 Proceedings of the 2003 conference on Diversity in computing

Full text available:  pdf(321.91 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Raw data and processed information are essential to organizations that perform operational analysis and build simulation systems. In such domains, the dissemination and management of this information is a daunting task. Not only must this data support a heterogeneous array of researchers, but also the requirements on this data are constantly changing. To achieve maximum utility, data of this sort must be made available in distributed locations and offered in various custom formats. Such approach ...

**Keywords:** XML, XSLT, semi-structured data, web-accessible databases

## 60 Aspect-oriented programming: Supporting aggregation in fine grained software configuration management

Mark C. Chu-Carroll, James Wright, David Shields

November 2002 **Proceedings of the 10th ACM SIGSOFT symposium on Foundations of software engineering**

Full text available:  pdf(207.31 KB)

Additional Information: full citation, abstract, references, citations, index terms.

Fine-grained software configuration management offers substantial benefits for large-scale collaborative software development, enabling a variety of interesting and useful features including complexity management, support for aspect-oriented software development, and support for communication and coordination within software engineering teams, as described in [4]. However, fine granularity by itself is not sufficient to achieve these benefits. Most of the benefits of fine granularity result from ...

**Keywords:** aggregation, dynamic program organization, fine grained storage

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